



IES INDOOR REPORT
PHOTOMETRIC FILENAME : 82-4-L64-840-DIM-UNV_.IES

DESCRIPTION INFORMATION (From Photometric File)

IESNA:LM-63-2002
[TEST] GEN from BALLABS TEST NO. 20804.0
[TESTLAB] BUILDING ACOUSTICS & LIGHTING LABORATORIES, INC
[ISSUEDATE] 04-MAR-2020
[MANUFAC] WILLIAMS INDOOR
[OTHER] H.E. WILLIAMS, INC - CARTHAGE, MO
[LUMINAIRE] 4-28 LED 22" ARRAYS 4' INDUSTRIAL LUMINAIRE
[MORE] WHITE REFLECTOR w/OPEN BOTTOM
[LUMCAT] 82-4-L64-840-DIM-UNV

CHARACTERISTICS

Lumens Per Lamp	N.A. (absolute)
Total Lamp Lumens	N.A. (absolute)
Luminaire Lumens	6526
Total Luminaire Efficiency	N.A.
Luminaire Efficacy Rating (LER)	152
Total Luminaire Watts	42.8
Ballast Factor	1.00
CIE Type	Direct
Spacing Criterion (0-180)	1.34
Spacing Criterion (90-270)	1.30
Spacing Criterion (Diagonal)	1.44
Basic Luminous Shape	Rectangular
Luminous Length (0-180)	4.00 ft
Luminous Width (90-270)	1.08 ft
Luminous Height	0.00 ft



LUMINANCE DATA (cd/sq.m)

Angle In Degrees	Average 0-Deg	Average 45-Deg	Average 90-Deg
45	6241	6144	6065
55	6097	6039	3132
65	5722	3116	3056
75	4549	1010	941
85	1572	786	349

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CANDELA TABULATION

	<u>0.0</u>	<u>22.5</u>	<u>45.0</u>	<u>67.5</u>	<u>90.0</u>
0	2437.027	2437.027	2437.027	2437.027	2437.027
5	2475.873	2432.938	2411.471	2407.382	2408.405
10	2449.294	2407.382	2385.915	2381.826	2381.826
15	2408.405	2365.470	2344.003	2399.204	2437.027
20	2349.114	2306.180	2352.181	2335.825	2373.648
25	2267.335	2232.579	2284.713	2199.867	2201.911
30	2177.378	2151.822	2123.199	2110.932	2108.887
35	2062.886	2112.976	2003.596	2013.819	2003.596
40	1918.750	2013.819	1894.216	1885.016	1871.727
45	1777.681	1771.547	1750.080	1728.613	1727.591
50	1597.766	1582.432	1574.254	1528.253	972.153
55	1408.651	1404.562	1395.362	729.882	723.748
60	1187.846	1206.247	641.969	628.679	628.679
65	974.198	970.109	530.544	512.144	520.322
70	719.659	727.837	408.897	142.092	111.424
75	474.321	288.273	105.291	97.113	98.135
80	244.316	124.714	75.646	63.379	59.290
85	55.201	46.001	27.601	14.311	12.267
90	2.044	19.423	7.156	0.000	0.000

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ZONAL LUMEN SUMMARY

Zone	Lumens	%Lamp	%Fixt
0-20	903.29	N.A.	13.80
0-30	1936.37	N.A.	29.70
0-40	3212.09	N.A.	49.20
0-60	5583.03	N.A.	85.50
0-80	6479.73	N.A.	99.30
0-90	6526.44	N.A.	100.00
10-90	6295.86	N.A.	96.50
20-40	2308.8	N.A.	35.40
20-50	3644.19	N.A.	55.80
40-70	3026.38	N.A.	46.40
60-80	896.70	N.A.	13.70
70-80	241.25	N.A.	3.70
80-90	46.71	N.A.	0.70
90-110	0.00	N.A.	0.00
90-120	0.00	N.A.	0.00
90-130	0.00	N.A.	0.00
90-150	0.00	N.A.	0.00
90-180	0.00	N.A.	0.00
110-180	0.00	N.A.	0.00
0-180	6526.44	N.A.	100.00

Total Luminaire Efficiency = N.A. %

ZONAL LUMEN SUMMARY

Zone	Lumens
0-10	230.57
10-20	672.71
20-30	1033.08
30-40	1275.72
40-50	1335.38
50-60	1035.55
60-70	655.45
70-80	241.25
80-90	46.71
90-100	0.00
100-110	0.00
110-120	0.00
120-130	0.00
130-140	0.00
140-150	0.00
150-160	0.00
160-170	0.00
170-180	0.00

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COEFFICIENTS OF UTILIZATION - ZONAL CAVITY METHOD

Effective Floor Cavity Reflectance 0.20

RC	80				70				50			30			10			0
RW	70	50	30	10	70	50	30	10	50	30	10	50	30	10	50	30	10	0
0	119	119	119	119	116	116	116	116	111	111	111	106	106	106	102	102	102	100
1	110	106	102	98	107	103	100	97	99	96	94	95	93	91	92	90	88	86
2	101	93	87	82	98	91	86	81	88	83	79	85	81	77	82	78	75	73
3	92	82	75	69	90	81	74	68	78	72	67	75	70	66	73	68	65	63
4	85	73	65	59	82	72	64	58	70	63	57	67	61	57	65	60	56	54
5	78	66	57	51	76	65	56	50	62	55	50	61	54	49	59	53	49	47
6	72	59	51	44	70	58	50	44	56	49	44	55	48	43	53	48	43	41
7	67	54	45	39	65	53	45	39	51	44	39	50	43	39	49	43	38	36
8	62	49	41	35	61	48	40	35	47	40	35	46	39	34	45	39	34	32
9	58	45	37	32	57	44	37	31	43	36	31	42	36	31	41	35	31	29
10	54	41	34	29	53	41	34	28	40	33	28	39	33	28	38	32	28	26

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UGR TABLE - CORRECTED

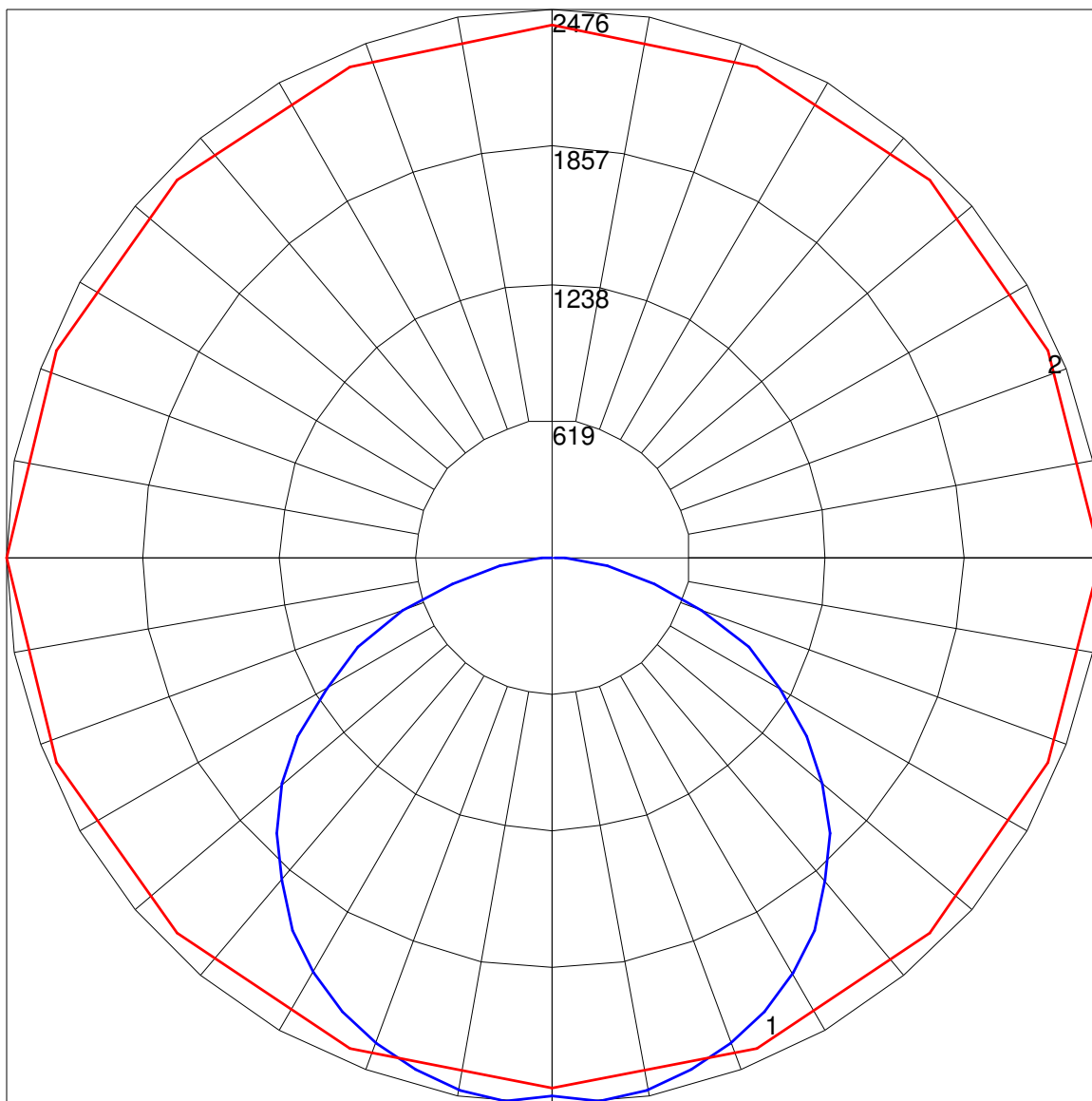
Reflectances

Ceiling Cavity	70	70	50	50	30	70	70	50	50	30
Walls	50	30	50	30	30	50	30	50	30	30
Floor Cavity	20	20	20	20	20	20	20	20	20	20

Room Size		UGR Viewed Crosswise					UGR Viewed Endwise				
X=2H	Y=2H	19.2	20.7	19.5	21.0	21.4	14.6	16.2	15.0	16.5	16.8
	3H	20.9	22.3	21.3	22.7	23.0	15.2	16.6	15.6	17.0	17.3
	4H	21.4	22.7	21.8	23.0	23.4	15.3	16.6	15.7	17.0	17.4
	6H	21.7	22.9	22.1	23.2	23.6	15.4	16.6	15.8	17.0	17.4
	8H	21.7	22.9	22.2	23.3	23.7	15.4	16.6	15.8	16.9	17.3
	12H	21.7	22.8	22.2	23.2	23.6	15.4	16.5	15.8	16.9	17.3
4H	2H	19.2	20.6	19.6	20.9	21.3	15.3	16.7	15.7	17.0	17.4
	3H	21.3	22.3	21.7	22.7	23.1	16.1	17.1	16.5	17.5	17.9
	4H	21.8	22.7	22.2	23.1	23.6	16.2	17.1	16.6	17.6	18.0
	6H	22.1	22.9	22.5	23.4	23.8	16.3	17.1	16.7	17.6	18.0
	8H	22.2	23.0	22.6	23.4	23.9	16.3	17.1	16.8	17.5	18.0
	12H	22.2	22.9	22.7	23.4	23.9	16.3	17.0	16.8	17.5	17.9
8H	4H	21.7	22.5	22.2	22.9	23.4	16.5	17.3	16.9	17.7	18.2
	6H	22.0	22.7	22.5	23.2	23.7	16.6	17.3	17.1	17.8	18.2
	8H	22.2	22.7	22.7	23.3	23.7	16.7	17.2	17.2	17.8	18.2
	12H	22.2	22.7	22.7	23.2	23.8	16.7	17.2	17.2	17.7	18.2
12H	4H	21.7	22.4	22.2	22.9	23.3	16.5	17.2	17.0	17.7	18.2
	6H	22.0	22.6	22.6	23.1	23.6	16.7	17.2	17.2	17.7	18.3
	8H	22.1	22.7	22.7	23.2	23.7	16.7	17.2	17.2	17.7	18.3

Maximum UGR = 23.9

POLAR GRAPH



Maximum Candela = 2475.873 Located At Horizontal Angle = 0, Vertical Angle = 5
1 - Vertical Plane Through Horizontal Angles (0 - 180) (Through Max. Cd.)
2 - Horizontal Cone Through Vertical Angle (5) (Through Max. Cd.)